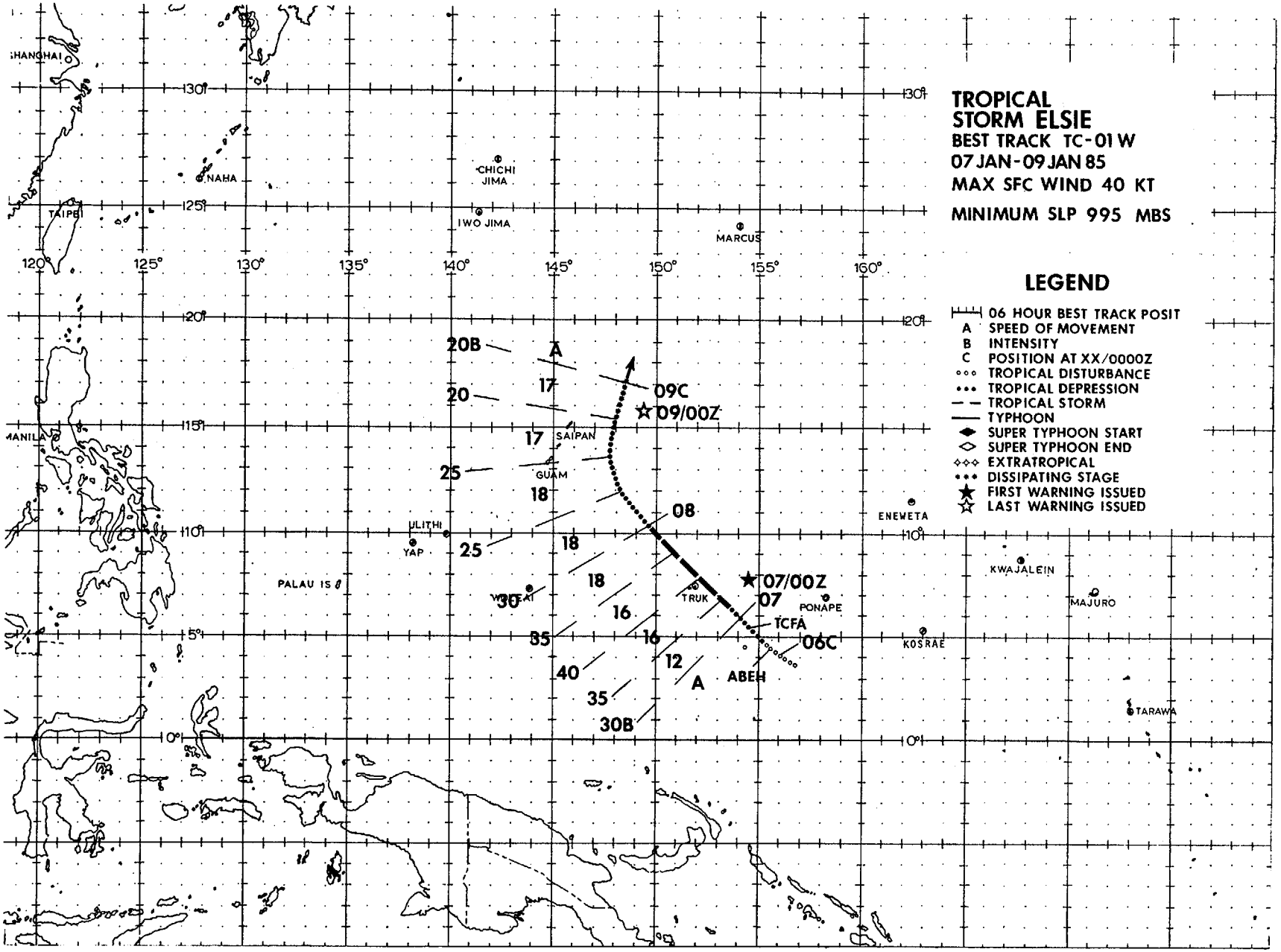
TROPICAL
STORM ELSIE
BEST TRACK TC-01W
07 JAN-09 JAN 85
MAX SFC WIND 40 KT
MINIMUM SLP 995 MBS
LEGEND
06 HOUR BEST TRACK POSIT
A SPEED OF MOVEMENT
B INTENSITY
C POSITION AT XX/0000Z
TROPICAL DISTURBANCE
TROPICAL DEPRESSION
TROPICAL STORM
TYPHOON
SUPER TYPHOON START
SUPER TYPHOON END
EXTRATROPICAL
DISSIPATING STAGE
FIRST WARNING ISSUED
LAST WARNING ISSUED
SHANGHAI
NAHA
TAIPEI
CHICHI JIMA
IWO JIMA
MARCUS
MANILA
SAIPAN
GUAM
ULITHI
YAP
PALAU IS
TRUK
PONAPE
ENEWETA
KWAJALEIN
MAJURO
KOSRAE
TARAWA
ABEH
TCFA
09C
09/00Z
08
07/00Z
07
06C
120°
125°
130°
135°
140°
145°
150°
155°
160°
30°
25°
20°
15°
10°
5°
0°

Tropical Storm Elsie, the first tropical cyclone of the 1985 season, was also the first tropical storm to develop during January in six years. Warnings were issued for only two days and it never intensified beyond 40 kt (21 m/s).

During the first week of January the near-equatorial trough was quite active, and extended from the southern Philippines southeast to the vicinity of the Equator and 160E. Embedded in this trough were two weak circulations, one southwest of Guam which would later develop into Tropical Storm Fabian and another southeast of Guam which would eventually develop into Elsie. Enhanced convective activity persisted throughout the region.

The cloud system that was to become Elsie first appeared on 4 January as an area of weak convection southwest of Pohnpei (Ponape WMO 91348). The convection persisted through the 4th, and on the 5th began to increase in strength and organization. At 0000Z on the 6th, analysis of satellite imagery gave the first indications that a low-level circulation center was developing. Sparse synoptic data up to this time had only indicated that a very broad 10 to 15 kt (5 to 8 m/s) cyclonic circulation was present. The persistence and improved organization of the convection resulted in the disturbance being mentioned in the 060600Z Significant Tropical Weather Advisory (ABEH PGTW). The disturbance was assessed as having a "fair" potential for further development (meaning that it was considered likely that a TCFA would be issued during the next 24 hours). Indeed, this was the case.

Analysis of satellite imagery during the next ten hours showed continued development, with Dvorak intensity analysis of the 061600Z imagery estimating surface winds of 25 kt (13 m/s). This was confirmed by a late 061200Z ship report near the Mortlock Islands (Satawan Atoll WMO 91338) which observed northwest winds of 30 kt (15 m/s). As a result, a TCFA was issued at 061700Z.

Just prior to 070000Z, the first aircraft reconnaissance mission was conducted into the disturbance. It located a 25 kt (13 m/s) circulation center at 062238Z approximately 60 nm (111 km) northeast of the Mortlock Islands near 5.8N 154.4E. As the WC-130 exited to the southwest a short time later, a small area of 30 kt (15 m/s) surface winds was observed. This prompted the first warning on Elsie, as a 30 kt (15 m/s) tropical depression, valid at 070000Z.

Elsie was upgraded to a 35 kt (18 m/s) tropical storm at 070600Z based on synoptic data received from the Mortlock Islands. The tropical cyclone briefly attained an intensity of 40 kt at 071200Z.

From the time Elsie was detected until the time JTWC went to warning status, the disturbance had moved to the northwest at about 7 kts (13 km/hr). After 070000Z, however, Elsie accelerated to the northwest as it moved around the western periphery of the subtropical ridge, passing east of Truk (WMO 91334) at about 071000Z. As Elsie moved further north (Figure 3-01-1) it encountered strong southerly winds aloft from an upper-level anticyclone south of Wake Island (WMO 91245). These winds sheared off the central convection. As a result, Elsie quickly lost all organization and rapidly weakened. Its low-level circulation could not be located on satellite imagery or by aircraft reconnaissance after 082100Z. The final warning was issued at 090000Z.

As Elsie passed east of Guam it did enhance the tradewinds, with gusts to 31 kt (16 m/s) observed at the U. S. Naval Oceanography Command Center/Joint Typhoon Warning Center building on Nimitz Hill. After Elsie dissipated, a secondary circulation formed in its wake near Guam and persisted for two days until it also moved to the northeast and dissipated.

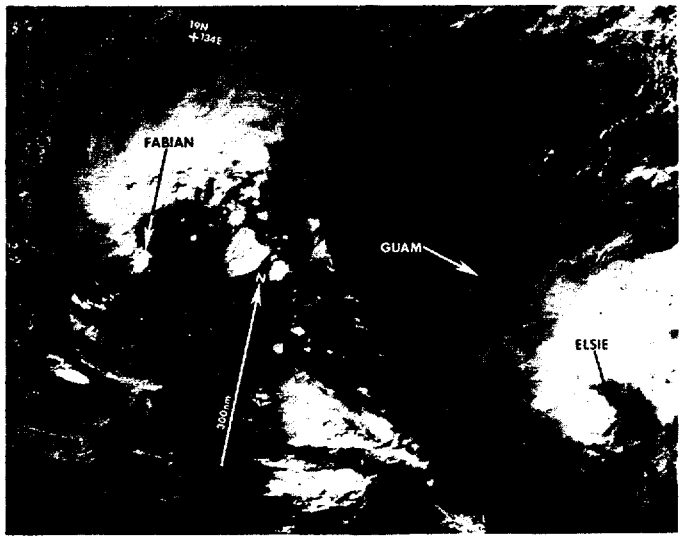

Figure 3-01-1. Tropical Storm Elsie weakening southeast of Guam. Later, strong upper-level winds north of Elsie sheared away the central convection. Rapid weakening and dissipation quickly followed. (The disturbance that would soon develop into Tropical Storm Fabian is located to the northwest of Elsie) (080047Z January DMSP visual imagery).